

WHAT IS CLAIMED IS:

- 1 1. A system for concurrent wireless voice and data communications comprising:
2 (a) a first transceiving unit tethered to a voice network and to a data
3 network;
4 (b) a second, mobile transceiving unit;
5 (c) the first transceiving unit combines and transmits to the second,
6 mobile transceiving unit, voice and data information from the voice and the data
7 network respectively, and receives and separates voice and data information
8 from the second, mobile transceiving unit and routes to the voice network and
9 the data network, respectively; and,
10 (d) the second, mobile transceiving unit combines and transmits to the
11 first transceiving unit, voice and data information and receives and separates
12 voice and data information from the first transceiving unit.
- 1 2. The system as recited in claim 1 wherein the data network is a V.90 modem
2 coupled to a public switched telephone network.
- 1 3. The system as recited in claim 1 wherein the data network is an ISDN
2 modem coupled to a public switched telephone network.
- 1 4. The system as recited in claim 1 wherein the data network is a DSL modem
2 coupled to a public switched telephone network.
- 1 5. The system as recited in claim 1 wherein the data network is a cable modem
2 coupled to a CATV system.
- 1 6. The system as recited in claim 1 wherein the data network is an Ethernet
2 network.

1 7. A method for concurrent wireless voice and data communications between
2 first and second transceiving units, the first transceiving unit tethered to a
3 voice network and to a data network and the second transceiving unit being
4 mobile, comprising the steps of:

5 (a) providing plural frequency, time-division-multiple-access, time-division-
6 duplex, channels;

7 (b) combining and transmitting both voice and data information on the
8 plural channels; and,

9 (C) receiving and separating the voice and data information.

1 8. The method as recited in claim 7 wherein the voice and data information are
2 packetized into plural time slots within a time frame and share equal
3 amounts of the time frame.

1 9. The method as recited in claim 8 wherein each of the plural time slots changes
2 to a different one of the plural frequency channels after a predetermined
3 number of consecutive frames.

1 10. The method as recited in claim 8 wherein a time slot containing data
2 information further comprises a forward error correction code.

1 11. The method as recited in claim 8 wherein the number of plural frequency
2 channels is greater than the number of plural time slots.

1 12. The method as recited in claim 8 wherein the number of plural frequency
2 channels is less than the number of plural time slots.

1 13. The method as recited in claim 8 wherein the number of plural frequency
2 channels is equal to the number of plural time slots.

1 14. The method as recited in claim 7 wherein step (a) adheres to the Digital
2 Enhanced Cordless Telecommunications standard.

1 15. The method as recited in claim 7 wherein step (a) complies with Digital
2 Enhanced Cordless Telecommunications standards.

1 16. The method as recited in claim 7 wherein the plural frequency channels
2 operate between 2.4 GHz and 2.5 GHz.

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1 17. A unitary transceiving unit comprising:

2 (a) a transceiver employing multiple frequency, time-division-multiple-
3 access, time-division-duplex, channels that supports concurrent wireless
4 voice and data communications; and,

5 (b) a baseband processor including a CODEC and at least one sub-processor
6 to process audio, generate tones, provide echo canceling and to program slot
7 and frame timing for the transceiver.

1 18. A unitary transceiving unit as recited in claim 16 wherein voice and data
2 information are packetized into plural time slots within a time frame and
3 share equal amounts of the time frame.

1 19. A unitary transceiving unit as recited in claim 16 wherein each of the plural
2 time slots has a different one of the multiple frequency channels.

1 20. A unitary transceiving unit as recited in claim 16 wherein each of the plural
2 time slots changes to a different one of the multiple frequency channels after a
3 predetermined number of consecutive frames.

1 21. A unitary transceiving unit as recited in claim 16 wherein a time slot
2 containing data information further comprises a forward error correction
3 code.

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